

CLAIMS

1. A method of deposition of a silicon layer on a single-crystal silicon substrate, so that the silicon layer is a single-crystal layer, but of different orientation than the substrate, including the steps of:
- 5 defining a window on the substrate;
creating inside the window interstitial defects with an atomic proportion lower than one for one hundred; and
performing a silicon deposition in conditions generally corresponding to those of an epitaxial deposition, but at a temperature lower than 900°C.
- 10 2. The method of claim 1, wherein the deposition temperature ranges between 600°C and 700°C.
- 15 3. The method of claim 2, wherein the step of defect creation includes an implantation step.
4. The method of claim 3, wherein the implantation is performed through a silicon oxide layer of a thickness lower than 10 nm and wherein this implantation is followed by a step of removal of the silicon oxide layer.
- 20 5. The method of claim 3, wherein the implantation is an implantation of an electrically neutral element.
- 25 6. The method of claim 3, wherein the implantation is an implantation of an element chosen from the group containing fluorine, silicon, germanium, boron, indium, phosphorus, arsenic, and antimony.
- 30 7. The method of claim 6, wherein the implantation of an electrically neutral element is a fluorine implantation at 12 keV, at 10^{13} at./cm².
8. The method of claim 1, wherein the window opening has a width lower than 5 μ m,

preferably, on the order of 0.35 μm .

9. The method of claim 8, wherein the width of the window opening is reduced by compound spacers.

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10. The method of claim 9, wherein the compound spacers comprise silicon nitride regions, and polysilicon spacers.

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11. The method of claim 10, wherein the compound spacers comprise silicon nitride regions, and polysilicon spacers.